



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,482	02/25/2004	Vitalij Lissotschenko	A-8948.RNFMP/cat	1771

7590 04/19/2005

Stewart L. Gitler, Esq.  
HOFFMAN, WASSON & GITLER, PC  
2461 South Clark Street, Suite 522  
Arlington, VA 22202

EXAMINER
----------

HARRINGTON, ALICIA M

ART UNIT	PAPER NUMBER
----------	--------------

2873

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary****Application No.**

10/785,482

**Applicant(s)**

LISSOTSCHENKO, VITALIJ

**Examiner**

Alicia M. Harrington

**Art Unit**

2873

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2004 and 04 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 and 33-38 is/are rejected.
- 7) ☒ Claim(s) 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0204,0604.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The Examiner has considered the information disclosure statement filed on 2/25/04. The Examiner has partially considered the information disclosure statement filed on 6/4/04 because the most of the references listed are duplicate references. The Examiner considered US 6,414,257 entitled Gas-insulated circuit breaker with an integrated electronic current transformer as listed on the IDS; however, the Examiner would like applicant to make the record clear that this was the intended reference since it was unrelated to the present application.

### ***Claim Objections***

2. Claims 1, 11,22,23, and 27-29 are objected to because of the following informalities: The claims set forth limitations using characters (-). The limitations in a claim should be positively recited in the claim without the use of characters or drawings or reference numerals. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-26,31,34,36,37 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the applicant claim, in lines 12-16, recite “the laser radiation onto the surface - which radiation is to be applied - of the object; wherein the array of lens elements arranged between the laser light source and the array influencing elements’. Thus, the Examiner is unclear as to how the array of influencing elements and array of lens elements both focus on the object when the claim as whole defines the array of lens as preceding the array of influencing elements. Therefore, the claim is indefinite.

Regarding claim 2, the phrase "in particular" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 3, the phrase "possibly present " renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Regarding claim 4, the phrase "or elements similar" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

Regarding claim 15, the phrase "or elements similar" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby

rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

***Claims 5-14, 31,36 inherit their indefiniteness from claim 1 from which they depend.***

***Claims 16-26,34,37 inherit their indefiniteness from claim 51 from which they depend.***

***Claims 1-26, 31,34, 36, 37 are examined as best understood by the Examiner.***

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3,5,6,8,10,11,27,28,30,33,35,36,38 are rejected under 35 U.S.C. 102(b) as being anticipated by Jain et al (US 6,515,257).

Regarding claim 1, Jain discloses an apparatus for applying laser radiation to comprising (for example see figure 1, 4, 6):

a laser light source (26) generating laser radiation;

two-dimensional array (12; see figure 4) of influencing elements that can deflect and/or pass the laser radiation issuing from the laser light source in such way that laser radiation is applied to prescribable locations on the object; and

a two-dimensional array lens elements (10) that can focus the laser radiation or portions of the laser radiation onto the surface - which radiation is to be applied - of the object;

wherein the array of lens elements arranged between the laser light source and the array influencing elements (see col. 7, lines 4-36 and col. 8, lines 45-65).

Regarding claim 2, Jain discloses the apparatus as claimed in claim1, wherein the array of influencing elements (12) corresponds to the array of lens elements, in particular to the

effect that each influencing element essentially assigned one lens element (see col. 7, lines 14-20).

Regarding claim 3, Jain discloses the apparatus as claimed in claim 1, wherein the focal lengths of the lens elements are selected in such way that the partial beams the laser radiation that have penetrated the individual lens elements impinge substantially on the influencing elements and not on an inter-space, possibly present between the influencing elements, of the array of influencing elements (see col. 7, lines 10-20 and col. 8, lines 45-65).

Regarding claim 5, Jain discloses the apparatus as claimed claim 1, wherein a homogenization (30) for homogenizing the laser radiation is arranged between the laser light source and the array of lens elements (see col. 7, lines 4-30).

Regarding claim 6, Jain discloses the apparatus as claimed in claim 1, wherein the array influencing elements (12) is designed



as a modulator array with modulator elements (see col. 7, lines 5-25 and col. 8, lines 59-67).

Regarding claim 8, Jain discloses the apparatus as claimed in claim 1, wherein the array of influencing elements designed as a mirror array with mirror elements (see col. 7, lines 15-25).

Regarding claim 10, Jain discloses the apparatus as claimed in claim 8, wherein perforated mask (56) is arranged between the mirror array (12) and the object (2)-see the embodiment of figure 6.

Regarding claim 11, Jain discloses the apparatus as claimed in claim 1, wherein array influencing elements (12) can be controlled such way that partial beams the laser radiation impinge in a fashion offset from one another in time on the prescribable locations to which radiation is to be applied of the object, or on locations directly adjacent thereto (see col. 9, lines 35-49 and col. 10, lines 16-35).

Regarding claim 12, Jain discloses the apparatus as claimed in claim 1, wherein the apparatus comprises scanning means that permit the object to be scanned with reference to the apparatus (for example see col. 9, lines 40-50) or permit the apparatus to be scanned with reference to the object.

Regarding claim 27, Jain discloses an apparatus applying laser radiation object, comprising (see figure 1, 4, 6):

a laser light source (26) generating laser radiation;

a two-dimensional array influencing (12) elements that can deflect and/or pass the laser radiation issuing from the laser light source in such way that laser radiation is applied to prescribable locations on the object; and

two-dimensional array of lens (10) elements that can focus the laser radiation portions the laser radiation onto the surface which radiation is to be applied - of the object;

wherein the array of influencing elements can be controlled in such way that partial beams of the laser radiation impinge in a

fashion offset from one another in time on the prescribable locations which radiation is to be applied the object, or on locations directly adjacent thereto (for example see col. 9, lines 35-49 and col. 10, lines 16-35).

Regarding claim 28, Jain discloses the apparatus as claimed in claim 27, wherein the desired laser power can be introduced into prescribable area on the surface - to which radiation is be applied of the object by spatial and/or temporal summation (see col. 9, lines 35-49 and col. 10, lines 16-35).

Regarding claim 30, Jain discloses the apparatus as claimed claim 27, wherein the apparatus comprises scanning means that permit the object to be scanned reference to the apparatus, or permit the apparatus to scanned with reference to the object (see col. 9, lines 40-49).

Regarding claims 33, 35, 36 and 38, Jain disclose an exposure apparatus for exposing a pattern on a substrate (object)- see abstract)

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4,15-24,34 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al (US 6,515,257) in view of Tanaka (US 6,570,424).

Regarding claim 4,Jain fails to specifically disclose the apparatus as claimed in claim 1, wherein the lens elements (10) are designed as mutually crossed cylindrical elements or elements similar to cylindrical lenses.

Tanaka discloses a laser exposure system where the array of two-dimensional cylindrical lens element focus (202) the laser radiation onto a two dimensional influencing element (207-see

figure 2; col. 2, lines 30-56). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a cylindrical array of lens elements for the specific purpose of focus light on the influencing elements with increased intensity (focus power).

Regarding claim 15, Jain discloses an apparatus applying laser radiation comprising:

laser light source (26) generating laser radiation;

two-dimensional array influencing elements (12) that can deflect and/or pass the laser radiation issuing from the laser light source in such way that laser radiation applied to prescribable locations on the object; and

two-dimensional array of lens elements (10) that can focus the laser radiation or portions of the laser radiation onto the surface to which radiation is applied of the object.

Jain fails to specifically disclose the apparatus as claimed in claim 1, wherein the lens elements (10) are designed as mutually

crossed cylindrical elements or elements similar to cylindrical lenses.

Tanaka discloses a laser exposure system where the array of two-dimensional cylindrical lens element focus (202) the laser radiation onto a two dimensional influencing element (207-see figure 2; col. 2, lines 30-56). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a cylindrical array of lens elements for the specific purpose of focus light on the influencing elements with increased intensity (focus power).

Regarding claim 16, Jain discloses he apparatus as claimed claim 15, wherein a homogenization unit (30) for homogenizing the laser radiation arranged between laser light source and the array of lens elements (for example see col. 7, lines 4-30).

Regarding claim 17, Jain discloses the apparatus as claimed 15, wherein the array of influencing elements (12) is as modulator

array with modulator elements (for example see col. 7, lines 5-25 and col. 8, lines 59-67).

Regarding claims 18 and 20, Jain discloses the apparatus as claimed in claim 15, wherein the modulator elements are designed as mirror elements that actuated that are the functional equivalent of electro-optic modulators or acousto-optic modulators or MEMS. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Jain in view of Tanaka, to use a electro-optic modulator for the specific purpose of beam deflection, since it is known in the art and electro-optical modulators or MEMs are movable or deformable reflective surfaces that are controlled to reflect light.

Regarding claim 19, Jain discloses the apparatus as claimed in claim 15, wherein the array of influencing elements (12) is designed as mirror array with mirror elements (see col. 7, lines 15-25).

Regarding claim 21, Jain discloses the apparatus as claimed in claim 19, wherein perforated mask (58) is arranged between the mirror array and the object (for example see the embodiment of figure 6).

Regarding claim 22, Jain discloses the apparatus claimed claim 15, wherein the array influencing elements can be controlled in such a way that partial beams of the laser radiation impinge fashion offset from one another time on the prescribable locations which radiation is applied - of the object, or locations directly adjacent thereto (for example see col. 9, lines 35-49 and col.10, lines 16-35).

Regarding claim 23, Jain discloses the apparatus as claimed in claim 19, wherein the apparatus comprises two mirror arrays with mirror elements that are arranged in such a way that it is possible to generate partial beams of the laser radiation that impinge asymmetrically in relation to the normal to the surface - to which radiation is to be applied - of the object.- The mirrors (titling),



fibers or substrate can be controlled to move to align the beams in desired locations –for example see col. 10, lines 16-35.

Regarding claim 24, Jain discloses the apparatus as claimed in claim 1, wherein the apparatus comprises scanning means that permit the object to be scanned with reference to the apparatus (for example see col. 9, lines 40-50) or permit the apparatus to be scanned with reference to the object.

Regarding claims 34 and 37, Jain disclose an exposure apparatus for exposing a pattern on a substrate(object)- see abstract)

9. Claims 7,9,29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al (US 6,515,257).

Regarding claims 7 and 9, Jain discloses the apparatus as claimed in claim 6, wherein the modulator elements are designed as mirror elements that actuated that are the functional equivalent of electro-optic modulators or acousto-optic modulators or MEMS. Thus, it would have been obvious to one of ordinary skill in the art

at the time the invention was made to uses a electro-optic modulator for the specific purpose of beam deflection, since it is known in the art and electro-optical modulators or MEMs are movable or deformable reflective surfaces that are controlled to reflect light.

Regarding claim 29, Jain discloses the apparatus claimed claim 27, wherein the apparatus comprises a mirror arrays with mirror elements that are arranged in such way that it is possible to generate partial beams the laser radiation that impinge asymmetrically relation to the normal to the surface to which radiation to be applied object (see col. 9, lines 40-49 and col. 10, lines 15-35). However Jain fail to specifically disclose an embodiment with two mirror arrays It would have been obvious to one of ordinary skill in the art at the time the invention was made to include two mirror arrays, since it has been held that mere duplication of essential working parts of a device only involves routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193

USPQ 8 and for the specific purpose of adding more control to the beam deflection

***Allowable Subject Matter***

10. Claims 13, 14, 25, 26, 31, 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 13, 25 and 31, prior art fails to teach or fairly suggest apparatus wherein the apparatus comprises scanning means that permit the array of lens elements be scanned with reference to the object and/or the array of influencing elements as claimed.

***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M.

Harrington whose telephone number is 571 272 2330. The examiner can normally be reached on Monday - Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571 272 2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/785,482  
Art Unit: 2873

Page 20

  
AMH

Alicia M Harrington  
Examiner  
Art Unit 2873